

What is claimed is:

1. A rod end device for a motor vehicle, said device comprising:

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a ball having an outer surface, said ball defining a supporting bore that extends through said ball;

15 a race for bearingly supporting said ball, said race defining a groove which is in fluid communication with said outer surface of said ball;

a rod end for supporting said race, said rod end defining a channel which is in fluid communication with said groove; and

20 a one way valve connected to said channel for supplying lubricant to said channel.

2. A rod end device as set forth in claim 1 wherein

said ball is fabricated from steel.

3. A rod end device as set forth in claim 1 wherein

5 said ball is of generally spherical configuration, said ball having a longitudinal axis extending therethrough, said ball defining a planar surface formed by the removal from the ball of an end cap through which said longitudinal axis extends, said ball defining a further planar surface disposed diametrically opposite relative to said planar surface, said further planar surface being formed by the removal from the ball of a further end cap through which said longitudinal axis 10 extends.

4. A rod end device as set forth in claim 3 wherein

15 said supporting bore is of cylindrical configuration, said supporting bore having a longitudinally extending axis coextending with said longitudinal axis of said ball.

5. A rod end device as set forth in claim 1 wherein

said race is fabricated from bronze.

6. A rod end device as set forth in claim 1 wherein

said race defines a socket cavity for the rotatable reception therein of said ball.

7. A rod end device as set forth in claim 6 wherein

5 said socket cavity and said outer surface of said ball define therebetween a clearance which permits rotation of said ball within said socket cavity and for the application thereto of a thin film of the lubricant.

8. A rod end device as set forth in claim 1 wherein

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said groove of said race includes:

an inlet portion;

15 an annular portion extending from said inlet portion, said annular portion extending around said outer surface of said ball, said annular portion permitting the lubricant to flow from said inlet portion to said outer surface of said ball.

9. A rod end device as set forth in claim 4 wherein

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said groove of said race includes:

an inlet portion;

an annular portion extending from said inlet portion, said annular portion extending around said outer surface of said ball, said annular portion permitting the lubricant to flow from said inlet

5 portion to said outer surface of said ball, said annular portion being disposed coaxially relative to said supporting bore.

10. A rod end device as set forth in claim 1 wherein

10 said rod end includes:

a pipe having a first and a second end, said pipe defining said channel which has a first and a second extremity, said first end of said pipe being fastened to said race such that said first extremity of said pipe is in fluid communication with said race.

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11. A rod end device as set forth in claim 8 wherein

said rod end includes:

20 a pipe having a first and a second end, said pipe defining said channel which has a first and a second extremity, said first end of said pipe being fastened to said race such that said first extremity of said pipe is in fluid communication with said annular portion of said race.

12. A rod end device as set forth in claim 11 wherein

said first end of said pipe defines an eye for the rigid reception therein of said race such that
when said race is disposed within said eye, said inlet portion is aligned relative to said first

5 extremity of said channel such that lubricant within said channel flows through said first
extremity of said channel through said inlet portion and around said annular portion for
lubricating said outer surface of said ball.

13. A rod end device as set forth in claim 12 wherein

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said one way valve is sealingly disposed adjacent to said second end of said pipe for supplying
the lubricant to said channel.

14. A rod end device as set forth in claim 1

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further including:

a tube having a first and a second end, said tube defining a cavity which extends between said
first end and said second end of said tube, said first end of said tube sealingly cooperating with

20 said rod end such that said cavity is disposed in fluid communication with said channel so that a
flow of lubricant disposed within said cavity to said outer surface of said ball is permitted.

15. A rod end device as set forth in claim 14

further including:

5 a plug disposed within said cavity for inhibiting flow of the lubricant from said second end of said tube.

16. A rod end device as set forth in claim 15 wherein

10 said one way valve is disposed between said plug and said first end of said tube for supplying the lubricant to said cavity.

17. A rod end device for a motor vehicle, said device comprising:

15 a ball having an outer surface, said ball defining a supporting bore that extends through said ball;

a race for bearingly supporting said ball, said race defining a groove which is in fluid communication with said outer surface of said ball;

20 a rod end for supporting said race, said rod end defining a channel which is in fluid communication with said groove;

a tube having a first and a second end, said tube defining a cavity which extends between said first end and said second end of said tube, said first end of said tube sealingly cooperating with said rod end such that said cavity is disposed in fluid communication with said channel so that a flow of lubricant disposed within said cavity to said outer surface of said ball is permitted;

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a plug disposed within said cavity for inhibiting flow of the lubricant from said second end of said tube; and

a one way valve connected to said channel for supplying the lubricant to said channel.

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18. A rod end device for a motor vehicle, said device comprising:

a ball having an outer surface, said ball defining a supporting bore that extends through said ball;

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a race for bearingly supporting said ball, said race defining a groove which is in fluid communication with said outer surface of said ball;

20 a rod end for supporting said race, said rod end defining a channel which is in fluid communication with said groove;

a one way valve connected to said channel for supplying lubricant to said channel;

said ball being fabricated from steel;

said ball being of generally spherical configuration, said ball having a longitudinal axis extending

therethrough, said ball defining a planar surface formed by the removal from the ball of an end

5 cap through which said longitudinal axis extends, said ball defining a further planar surface disposed diametrically opposite relative to said planar surface, said further planar surface being formed by the removal from the ball of a further end cap through which said longitudinal axis extends;

10 said supporting bore being of cylindrical configuration, said supporting bore having a

longitudinally extending axis coextending with said longitudinal axis of said ball;

said race being fabricated from bronze;

15 said race defining a socket cavity for the rotatable reception therein of said ball;

said socket cavity and said outer surface of said ball defining therebetween a clearance which

permits rotation of said ball within said socket cavity and the application thereto of a thin film of

the lubricant;

said groove of said race including:

an inlet portion;

an annular portion extending from said inlet portion, said annular portion extending around said outer surface of said ball, said annular portion permitting the lubricant to flow from said inlet

5 portion to said outer surface of said ball, said annular portion being disposed coaxially relative to said supporting bore;

said rod end including:

10 a pipe having a first and a second end, said pipe defining said channel which has a first and a second extremity, said first end of said pipe being fastened to said race such that said first extremity of said pipe is in fluid communication with said annular portion of said race;

said first end of said pipe defining an eye for the rigid reception therein of said race such that

15 when said race is disposed within said eye, said inlet portion is aligned relative to said first extremity of said channel such that lubricant within said channel flows through said first extremity of said channel through said inlet portion and around said annular portion for lubricating said outer surface of said ball;

20 said rod end device further including:

a tube having a first and a second end, said tube defining a cavity which extends between said

first end and said second end of said tube, said first end of said tube sealingly cooperating with said rod end such that said cavity is disposed in fluid communication with said channel so that a flow of lubricant disposed within said cavity to said outer surface of said ball is permitted;

- 5 a plug disposed within said cavity for inhibiting flow of the lubricant from said second end of said tube; and

said one way valve being disposed between said plug and said first end of said tube for supplying the lubricant to said cavity.

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